

THE NANCY GRACE ROMAN SPACE TELESCOPE

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The Nancy Grace Roman Space Telescope is a next-generation observatory that will peer through dust and across vast stretches of space and time to survey the infrared universe. The mission will help us solve some of the most profound mysteries in astrophysics, such as how the universe has evolved, its ultimate fate, and whether we are alone. Roman's enormous field of view and fast survey speeds will allow astronomers to observe planets by the thousands, galaxies by the millions, and stars by the billions. The mission also aims to help illuminate two of the biggest cosmic puzzles: dark energy and dark matter.

Roman will help us figure out what dark matter is made of by exploring the structure and distribution of both regular matter and dark matter across space and time. This investigation can only be done effectively using precise measurements from many galaxies. The mission's sweeping cosmic surveys will also help us understand why the expansion of the universe is speeding up.

Roman will study the culprit, which we call "dark energy," in multiple ways, including surveying galaxy clusters and supernovae. Scientists will create a 3D map of the universe to help us understand how the universe grew over time under dark energy's influence. Roman will also search for planets outside our solar system toward the center of our Milky Way galaxy, where most stars are. Astronomers expect the mission to reveal the diversity of the structures of other solar systems.

The Nancy Grace Roman Space Telescope is managed at NASA's Goddard Space Flight Center in Greenbelt, Maryland, with participation by NASA's Jet Propulsion Laboratory and Caltech/IPAC in Southern California, the Space Telescope Science Institute in Baltimore, and a science team comprising scientists from various research institutions. The primary industrial partners are Ball Aerospace and Technologies Corporation in Boulder, Colorado, L3Harris Technologies in Melbourne, Florida, and Teledyne Imaging Sensors in Camarillo, California.

For more information, please visit https://roman.gsfc.nasa.gov

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